

IN THE DRAWINGS

The attached sheets of drawings include changes to Figs. 6-10. These sheets, which include Figs. 6-10, replace the original sheets including Figs. 6-10.

Attachment: Replacement Sheets (3).

REMARKS/ARGUMENTS

Favorable reconsideration of this application as presently amended and in light of the following discussion is respectfully requested.

Claims 1-20 are pending in this application. Claims 1-7 are amended and Claims 8-20 are added by the present amendment.

Amendments to the claims and new claims find support in the application as originally filed. Thus, no new matter is added.

In the outstanding Office Action, Claim 1 was objected to; the drawings were objected to; Claims 1, 6, and 7 were rejected under 35 U.S.C. § 102(b) as anticipated by U.S. Patent 5,290,975 to Mizuno et al. (herein "Mizuno"); Claims 2-4 were rejected under 35 U.S.C. § 103(a) as unpatentable over Mizuno in view of U.S. Patent 5,813,498 to Hattori et al. (herein "Hattori"); and Claim 5 was rejected under 35 U.S.C. § 103(a) as unpatentable over Mizuno in view of U.S. Patent 5,696,362 to Amend.

Initially, Applicant and Applicant's representatives gratefully acknowledge the courtesy of a personal interview with Examiner Chan and Supervisory Patent Examiner Donovan on December 9, 2008. During the interview, rejections in the outstanding Office Action and differences between the claimed invention and disclosures of the references in the Office Action were discussed. Comments and claim amendments discussed during the interview are reiterated below.

Regarding the objection to Claim 1, Claim 1 is amended to avoid using the phrase identified in the Office Action. Accordingly, it is respectfully requested the objection to the claims be withdrawn.

Regarding the objection to the drawings, Figures 6-10 are amended to show features identified in the specification. For example, Figure 6 is amended to show weighing device 44, Figure 7 is amended to show elevator operation control room 47, Figure 8 is amended to

show stop floor detecting sensor 45, Figure 9 is amended to show timer 46, and Figure 10 is amended to show abnormality detecting sensor 48, each of which are described in the specification as originally filed. Thus, no new matter is added.

Applicant respectfully traverses the rejection of Claims 1, 6, and 7 as anticipated by Mizuno, with respect to amended independent Claim 1, and new independent Claims 11 and 20.

Amended Claim 1 is directed to an elevator door apparatus that includes, in part, an elevator door configured to move between a door closure position that closes an elevator entrance, a first open door position that opens the elevator entrance to a first open door width, a second open door position that opens the elevator entrance to a second open door width greater than the first open door width, and a fully open door position that opens the elevator entrance to a fully open door width greater than the second open door width. Further, the elevator door apparatus of Claim 1 includes a door drive device configured to drive the elevator door and a door control device configured to select one of the first, second, and fully open door positions based on control information for controlling an operation of an elevator. The door control device is further configured to control the door drive device to stop moving the elevator door at the selected door open position.

As described in a non-limiting embodiment in Applicant's specification, the door control device may control an elevator door to open fully or to open part way. In addition, the door control device may adjust the position of the part way or "half open position" to be closer to a fully open position or further away from a fully open position based on control information, for example based on a weight load inside the car. Thus, according to an embodiment of Claim 1, a door control device is configured to select between plural different partial open door positions (e.g., first and second open door positions), in addition to a closed door position and a fully open door position.

As discussed during the interview, Mizuno fails to teach or suggest each of the features of independent Claim 1. For example, as discussed during the interview, Mizuno fails to teach or suggest a door control device configured to select the first open door position that opens an elevator entrance to a first open door width, a second open door position that opens the elevator entrance to a second open door width greater than the first open door width, and a fully open door position that opens the elevator entrance to a fully open door width greater than the second open door width.

Accordingly, it is respectfully requested the rejection under 35 U.S.C. § 102(b) be withdrawn.

Further, as discussed during the interview, Hattori also fails to teach or suggest the features of amended Claim 1. In particular, as discussed during the interview, Hattori fails to supply the features of amended Claim 1 that are lacking in the disclosure of Mizuno.

Hattori describes an elevator door system having variable opening/closing width.¹ In particular, as shown in Hattori Figure 2, Hattori describes a system that selects between opening a door completely in Step S₈ and opening a door half way as in step S₇. In other words, according to Hattori, a “variable opening/closing width” refers to the ability to select one of a) the half open position or b) the completely open position. However, as discussed during the interview, Hattori fails to teach or suggest any second partially open door position or any variation of the width of the opening in the partially open position, and Hattori only discusses a single partially open door position (i.e., half opened) in addition to a completely open position.

Hattori indicates that according to prior art, when an elevator reaches a destination floor and when there is only one passenger getting off the elevator, the

¹ Hattori at Title.

one passenger gets off the elevator while the door is opening until it is about half way open. Even after the passenger gets off, the door continues to open from the half opened state until it is completely opened. Consequently, the time it takes for the door to go from half way opened to completely opened is wasted time since the passenger has already gotten off.²

In other words, Hattori is directed to avoiding the “wasted time” that occurs after an individual passenger exits the elevator while the elevator door continues to open past the half-way open position. Further, Hattori proposes that the solution to this problem is to output a signal to a door operator from a control panel so that the door is “opened slightly less (e.g., half open) than the completely (fully) opened width.”³ Thus, according to Hattori, under certain predetermined conditions, the door is only opened to the half-way position. Further, Hattori indicates that “the operation of the elevator door opening/closing variable width system will be explained with reference to the flow chart shown in FIG. 2.”⁴ In Hattori Fig. 2, Hattori explains that, based on a calculated numerical value and whether or not a hold call at a destination floor is made, a door to an elevator is selected between one of only two possible states: door is half opened S₇, or door is completely opened S₈. Thus, according to Hattori, the “variable opening/closing width” pertains to selection between a half opened and completely opened door position. Further, according to Hattori, if the pre-conditions are met for outputting the signal, “the door opens slightly less (e.g., half open) than the completely open width (Step S₇).”⁵ Thus, as discussed during the interview, Hattori merely indicates selecting between a partially opened position and fully opened position based on a pre-condition and Hattori is silent regarding selecting between two different partially opened positions or selecting a partially opened position and then adjusting the partially opened position to be a different position.

² Hattori at column 1, lines 20-26.

³ Hattori at column 2, lines 2-4.

⁴ Hattori at column 2, lines 61-63.

⁵ Hattori at column 3, lines 19-20.

Further, Hattori indicates that “a signal is output to the door operator to make the door open less than the completely opened width if the result of having divided said number of passengers by the number of destination floor buttons pressed is one or less and a hold call has not been generated.”⁶ Further, Hattori indicates that in the condition in which the door is opened less than the completely open width, “the door does not continue opening after the one passenger gets off the elevator.”⁷ In other words, Hattori merely indicates that since a pre-condition has been met and a decision has been made to open the door to only the half opened position, the door does not continue opening even after the single passenger gets off. Thus, as noted above and as discussed during the interview, Hattori fails to teach or suggest an elevator door that is configured to move between a door closure position, a first open door position that opens the elevator entrance to a first open door width, a second open position that opens the elevator entrance to a second open door width greater than the first open door width, and a fully open door position that opens the elevator entrance to a fully open door width greater than the second open door width, as required by independent Claim 1 and as similarly required by independent Claim 20.

Claim 11 is directed to an elevator door apparatus that includes, in part, a door control device that is configured to select one of the partially open door position and the fully open door position based on control information, and when the partially open door position is selected, to adjust the partially open door width of the partially open door position based on the control information. As noted above, Hattori fails to teach or suggest adjusting a partially open door width, and Hattori merely indicates selecting between a partially open door width and a fully open door width based on a pre-condition. Thus, it is respectfully submitted that

⁶ Hattori at column 3, line 37 to column 4, line 4.

⁷ Hattori at column 4, lines 4-6.

Hattori also fails to teach or suggest “to adjust the partially open door width of the partially open door position based on the control information,” as recited in independent Claim 11.

New Claims 8-10 and 12-19 are added to recite additional disclosed features that are not taught or suggested by the cited references. Accordingly, it is respectfully submitted that each of the dependent claims also patentably define over the cited references for those independent reasons in addition to the reasons noted above with respect to the independent claims.

Also, Applicant respectfully traverses the rejection of Claims 2-5 under 35 U.S.C. § 103(a) as unpatentable over Mizuno in view of Hattori or Amend.

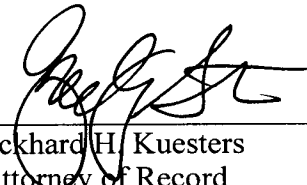
Claims 2-5 depend from Claim 1, which as discussed above is believed to patentably define over Mizuno and Hattori. In addition, Applicant respectfully submits that Amend fails to supply or suggest the claimed features of the independent claims lacking in the disclosures of Mizuno and Hattori. Accordingly, it is respectfully requested those rejections also be withdrawn.

Accordingly, Applicant respectfully submits that independent Claims 1, 11, and 20, and claims depending therefrom, are allowable.

Consequently, in light of the above discussion and in view of the present amendment, this application is believed to be in condition for allowance and an early and favorable action to that effect is respectfully requested.

Respectfully submitted,

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